

# Collider Data Analysis Strategies

## Snowmass Community Planning Meeting

Tuesday, October 6, 2:30pm – 4:00pm Fermilab time

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# Today's Session

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*Nine perspectives on challenges and future opportunities in collider data analysis strategies*

## Physics inspiration

- **Josh Bendavid:** Systematics-limited targets for measurements/searches
- **Liza Brost:** Statistics-limited targets for measurements/searches

## Data acquisition

- **Jennifer Ngadiuba:** Advances in triggering and data acquisition
- **Antonio Boveia:** Challenges and opportunities in trigger-level analysis

## From reconstruction to analysis

- **Loukas Gouskos:** Object identification and event classification
- **Matthew Fierck:** Differentiable programming
- **David Shih:** Challenges and opportunities for anomaly detection

## Interfacing beyond experimental collaborations

- **Simone Marzani:** Interface of theory calculations with experimental methods
- **Ana Trisovic:** Data preservation and interpretation

*Speaker instructions: “articulate a key challenge in your topic area and possible avenues for future advances; spark lively discussion and inspire attendees; no time to be comprehensive”*

**~40 minutes of open discussion**

# Session overview

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## Format

9 **brief presentations** (5 minutes each! max 3 slides!)  
~40 minutes of **open discussion**  
(Zoom room will stay active for additional ~30 minutes)

## Feedback:

Synchronous:

- Raise your **blue Zoom hand** during open discussion
- type your comments/questions into the **Zoom chat**

Asynchronous:

- enter your ideas in a **[shared Google doc](#)**

## Goals:

Spark **cross-cutting dialogue** about the future of our field  
Collect **forward-looking ideas** for Energy/Comp/Theory Frontiers  
Motivate a possible **future Snowmass mini-workshop** on this topic  
Inspire you to **contribute to Snowmass process** (esp. contributed papers)

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## DPF Core Principles and Community Guidelines (CP&CG)

- By participating in this meeting, you agree to adhere to the CP&CG
  - **Respect and support community members**
  - **Commit to constructive dialogue and take initiative**
  - Details of what this means, expectations for behavior, and accountability procedures are provided in the CP&CG document linked at: <https://snowmass21.org/cpcg/start>
- Everyone is invited to invoke the CP&CG as needed to encourage constructive and supportive collaboration
- The conveners of this meeting are your recommended first point of contact for reports of CP&CG violations occurring here
  - The conveners have received training in the CP&CG and how to handle reports
  - The CP&CG accountability procedure is designed to encourage early intervention and is flexible enough to appropriately address issues ranging from the discourteous to the egregious
  - Please do not hesitate to contact us!
- Snowmass is most successful when everyone's voice can be heard!